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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,316	07/02/2002	Toshiharu Furukawa	BUR920010222	8270
23550	7590	12/29/2003	EXAMINER	
HOFFMAN WARNICK & D'ALESSANDRO, LLC			VU, HUNG K	
3 E-COMM SQUARE			ART UNIT	PAPER NUMBER
ALBANY, NY 12207			2811	

DATE MAILED: 12/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/064,316	<b>Applicant(s)</b> FURUKAWA ET AL.	
	<b>Examiner</b> Hung K. Vu	<b>Art Unit</b> 2811	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 October 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,21,22,34-36 and 43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4,21,22,34-36 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Request for Continued Examination***

1 A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/16/03 has been entered. An action on the RCE follows.

### ***Claim Objections***

2. Claims 4 and 21 are objected to because of the following informalities:

In claim 4, line 2, delete “,” for clarity.

In claim 21, line 1, delete “at least one” for clarity.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 34 – 36 and 43 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the

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relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification does not disclose an insulating layer having a portion that extends on two opposing vertical sides of a second portion of the spacer and contacts the gate electrode, as recited in claim 34.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 21, 22 and 34 – 36, insofar as in compliance with 35 USC 112, are rejected under 35 U.S.C. 102(b) as being anticipated by Wei (PN 5,369,303, of record).

Wei discloses, as shown in Figure 9, a semiconductor comprising,

a contact (48) having a portion that extends on two opposing vertical sides of a vertical structure (40) adjacent a first gate electrode (16), and the contact contacts a diffusion (42) adjacent the first gate electrode and is insulated from an adjacent second gate electrode by an insulating layer (32,40).

With regard to claim 4, Wei discloses the contact includes an upper portion that is larger than a lower contact portion [see Figure 9].

With regard to claim 21, Wei discloses the vertical structure is a spacer.

With regard to claim 22, Wei discloses the contact contacts a substrate adjacent the spacer.

With regard to claim 34, Wei discloses, as shown in Figure 9, a semiconductor comprising:

- a gate electrode (16);
- the spacers (40) adjacent the gate electrode;
- a contact (48) having a portion that extends on two opposing vertical sides of a first spacer (40), the contact contacts a diffusion (42) adjacent the gate electrode;
- an insulating layer having a portion that extends on two opposing vertical sides of a second spacer (40);
- a masking layer (32) insulating the gate electrode from the contact.

With regard to claim 35, Wei discloses the masking layer caps at least a portion of the gate electrode.

With regard to claim 36, Wei discloses the contact has an upper portion that is larger than a lower portion that contacts the diffusion.

#### ***Response to Arguments***

5. Applicant's arguments filed 10/16/03 have been fully considered but they are not persuasive.

It is argued, at page 5 of the Remarks, that Wei does not disclose the contact is insulated from an adjacent second gate electrode by an insulating layer. This argument is not convincing because Wei discloses, as shown in Figure 9, the contact (48) is insulated from an adjacent second gate electrode by an insulating layer (32,40).

It is argued, at page 6 of the Remarks, that Wei does not disclose an insulating layer that contacts two opposing vertical sides of a second portion of a spacer and a gate electrode. This argument is not convincing due to the introduction of new matter situations. Note that Figure 19 shows the contact (50) contacts the whole side of the spacer (16) so there is no exist of the insulating layer, and Figure 20 shows the insulating layer (138) extends on only one side of the spacer, not on two opposing sides of the spacer.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (703) 308-4079. The examiner can normally be reached on Mon-Thurs 6:00-3:30, alternate Friday 7:00-3:30, Eastern Time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The Central Fax Number for the organization where this application or proceeding is assigned is (703) 872-9306.

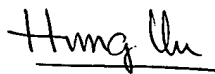
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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Vu

December 24, 2003

A handwritten signature in black ink, appearing to read "Hung Vu", written over a horizontal line.

Hung Vu

Patent Examiner